

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF COUNTDOWN PEDESTRIAN SIGNAL HEADS, APS PUSHBUTTONS AND SIGNS, AND IP-BASED VIDEO DETECTION CAMERAS AT THE INTERSECTION OF US 29 (COLESVILLE RD) AT SLIGO CREEK PKWY & ST. ANDREWS WAY. US 29 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA SIX-PHASE FULL-TRAFFIC-ACTUATED MODE WITH AN ALTERNATE PEDESTRIAN PHASES FOR THE NORTH AND SOUTH LEGS AND CONCURRENT PEDESTRIAN PHASES FOR THE EAST AND WEST LEGS OF THE INTERSECTION. THE US 29 NORTHBOUND AND SOUTHBOUND LEFT TURNS OPERATE IN EXCLUSIVE- PERMISSIVE PHASING.

CONTROLLER REQUIREMENTS

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT-PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL REMAIN. THE EXISTING IP-BASED VIDEO DETECTION INTERFACE EQUIPMENT SHALL REMAIN. A 2-WIRE APS CENTRAL CONTROL UNIT SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY SHA.

SPECIAL NOTES

APS WILL FUNCTION AS FOLLOWS:

TO CROSS US 29 (COLESVILLE ROAD) - NORTH LEG:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS COLESVILLE AT SLIGO CREEK AND ST. ANDREWS. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS US 29 (COLESVILLE ROAD) - SOUTH LEG:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS COLESVILLE AT SLIGO CREEK. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS SLIGO CREEK PARKWAY - EAST LEG:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS SLIGO CREEK AT COLESVILLE. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS SLIGO CREEK PARKWAY - WEST LEG:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS SLIGO CREEK AT COLESVILLE AND ST. ANDREWS. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS ST. ANDREWS WAY:

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS ST. ANDREWS AT COLESVILLE AND SLIGO CREEK. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

WIRING KEY

A,B,C,D,E	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	Z	STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
F,G,H,I,J,K,L	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	PF	EXISTING OVERHEAD POWER FEED
M,N,O,P,Q	IP-BASED VIDEO DETECTION CAMERA CABLE	+	PROPOSED GROUND ROD
EX	USE EXISTING CABLE	⊕	EXISTING GROUND ROD

PHASING CHART

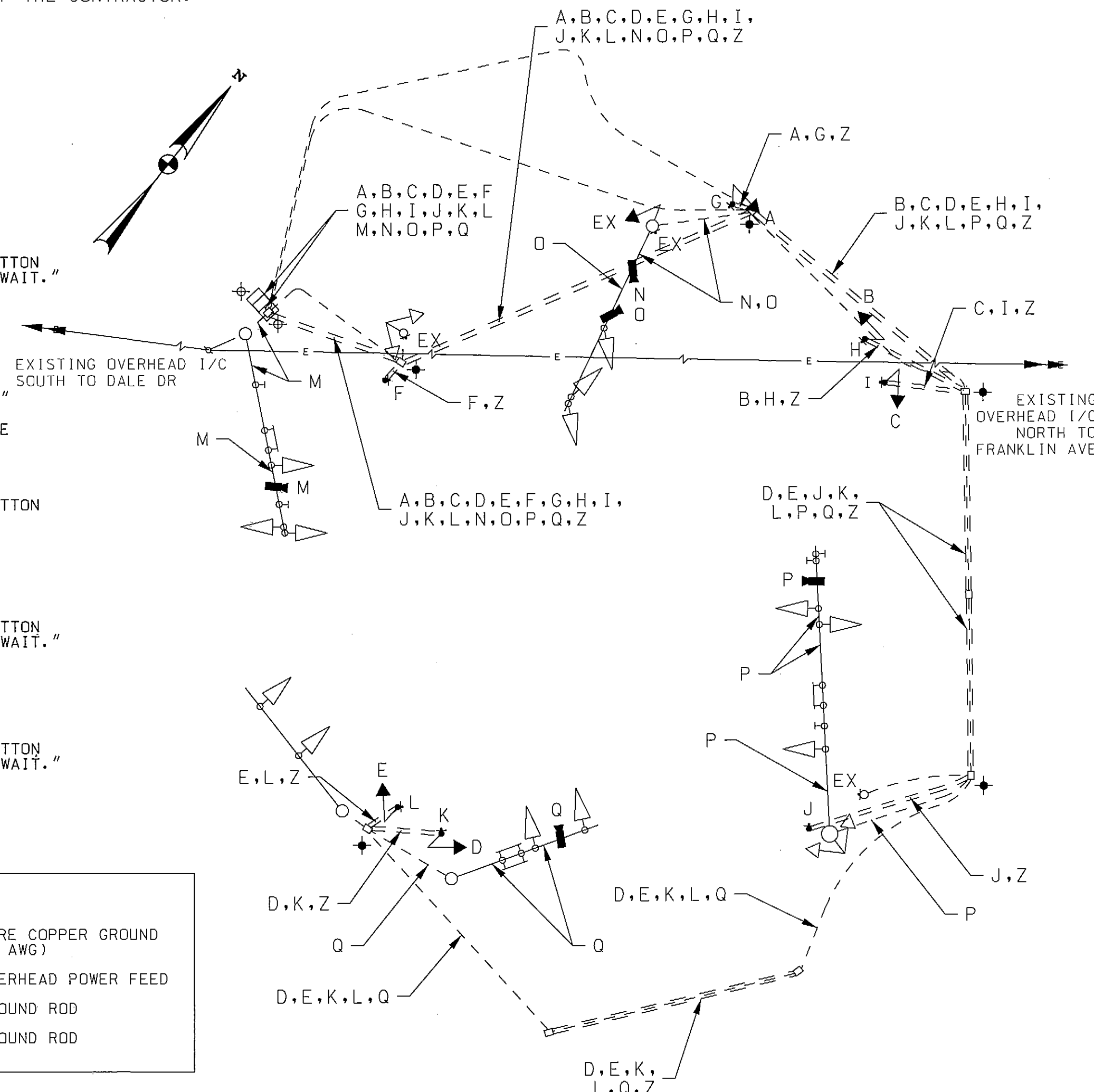
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
PHASE 1 AND 5	R	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6	R	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 1 AND 6	G	G	G	G	G	G	G	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
1 AND 6 CHANGE	G	G	G	G	G	G	G	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 AND 5	R	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
2 AND 5 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	G	G	G	G	G	G	G	G	G	G	G	G	G	DW	DW	WK	WK	DW	DW	WK	WK	WK	WK
PED CLEARANCE	G	G	G	G	G	G	G	G	G	G	G	G	G	DW	DW	FL/DW	FL/DW	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	G	G	R	R	R	G	G	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
3 CHANGE	R	R	R	R	R	R	Y	Y	R	R	R	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3 ALT	R	R	R	R	R	R	G	G	R	R	R	G	G	DW	DW	WK	WK	DW	DW	DW	DW	DW	DW
PED CLEARANCE	R	R	R	R	R	R	G	G	R	R	R	G	G	FL/DW	FL/DW	DW	DW	FL/DW	FL/DW	DW	DW	DW	DW
3 ALT CHANGE	R	R	R	R	R	R	Y	Y	R	R	R	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	G	G	G	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
4 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	DW	DW	DW	DW	DW	DW	DW	DW	DW	DW

EQUIPMENT LIST "A & C"

A. EQUIPMENT TO BE SUPPLIED BY SHA.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
900000	SHEET ALUMINUM GROUND MOUNTED SIGN 2 - W11-2 FY 36"X36" 3 - M6-2(1) FY 30"X24" 2 - DM1-3 FY 18"X18"	SF	58
900000	SHEET ALUMINUM MAST ARM / POLE MOUNTED SIGN 10 - R10-3(1) 9"X15"	SF	10

C. ALL MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.



EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
100000	MAINTENANCE OF TRAFFIC (PER INTERSECTION)	EA	1
201032	CLASS 2 EXCAVATION	CY	7.5
500000	10 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	150
504150	HOT MIX ASPHALT SUPERPAVE 9.5MM FOR SURFACE, PG76-22, LEVEL-3	TON	15
520109	3 INCH GRADED AGGREGATE BASE COURSE	SY	20
585617	5 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	50
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	915
585625	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	175
585700	REMOVAL OF EXISTING PAVEMENT MARKING LINES, ANY WIDTH	LF	1290
600000	TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH	LF	383
600000	TYPE A CURB ANY HEIGHT OR DEPTH	LF	83
600000	REMOVE AND RESET EXISTING BENCH	EA	1
655105	5 INCH CONCRETE SIDEWALK	SF	2611
655120	DETECTABLE WARNING SURFACE FOR CURB RAMPS	SF	162
704345	PLACING FURNISHED TOPSOIL 4 INCH DEPTH	SY	43
708220	TURFGRASS SOD ESTABLISHMENT	SY	43
800000	2-WIRE APS CENTRAL CONTROL UNIT	EA	1
800000	ADJUST HANDHOLE TO GRADE AND REPLACE FRAME AND COVER	EA	7
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS	EA	10
800000	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	EA	6
800000	IP-BASED VIDEO DETECTION CAMERA & ANY LENGTH LEAD-IN CABLE	EA	5
800000	5 FOOT OR 10 FOOT PEDESTAL POLE WITH BREAKAWAY COUPLINGS, FOUNDATION & GROUND ROD	EA	7
800000	REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION)	EA	1
800000	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED OR SLOTTED	LF	390
800000	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	LF	150
800000	WOOD SIGN SUPPORTS UP TO 4 INCH X 6 INCH	LF	142
800000	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)	SF	68
800000	THIRD PARTY CONCRETE TESTING (PER INTERSECTION)	EA	1
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	610
813023	RELOCATE EXISTING GROUND MOUNTED SIGNS	SF	13
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	2770
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	LF	2255

GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
- ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
- ALL PEDESTAL FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH SIDEWALK GRADE.
- LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.10, MUTCD FIGURES 4E-3 AND 4E-4, AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
- PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
- THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON. NOT CENTER OF POLE TO CENTER OF POLE.
- PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
- VIDEO DETECTION CAMERA ALIGNMENT SHALL BE COORDINATED WITH THE ENGINEER.
- DURING CONSTRUCTION, PROPOSED SIGNAL EQUIPMENT SHALL NOT BLOCK EXISTING SIGNAL EQUIPMENT.
- THE CONTRACTOR SHALL CAP AND ABANDON CONDUITS FEEDING EXISTING SIGNAL EQUIPMENT THAT IS REMOVED.
- THE CONTRACTOR SHALL CONTACT ED RODENHIZER AT THE SIGNAL SHOP (410-787-7652) TO DELIVER APS EQUIPMENT FOR TESTING.
- ALL CONTROLLER CABINET WIRING WILL BE PERFORMED BY MONTGOMERY COUNTY FORCES. CONTACT MR. KAMAL HAMUD (240-777-8761), 72 HOURS IN ADVANCE OF INTENDED WORK.

CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

MS. ANYESHA MOOKHERJEE
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: 301-513-7358

MR. TOM FOUNTAIN
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
301-513-7304

MR. DUANE BERNARD
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
301-513-7336

CONTACT PERSONS FOR OOTS ARE AS FOLLOWS:

MS. CORREN JOHNSON
DIVISION CHIEF
TRAFFIC OPERATIONS
PHONE: 410-787-7630

MR. ROBERT SNYDER
ASSISTANT DIVISION CHIEF
TRAFFIC OPERATIONS
410-787-7631

MR. ED RODENHIZER
MANAGER, SIGNAL OPERATIONS
410-787-7650

MR. EUGENE BAILLEY
MANAGER, SIGN OPERATIONS
410-787-7676

CONTACT PERSONS FOR MONTGOMERY COUNTY ARE AS FOLLOWS:

MR. KAMAL HAMUD
TRAFFIC ENGINEER
PHONE: 240-777-8761

MR. BOB RICKETTS
MONTGOMERY COUNTY SIGNAL SHOP
301-279-1291



SHA STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF TRAFFIC & SAFETY TRAFFIC ENGINEERING DESIGN DIVISION US 29 (COLESVILLE RD) AT SLIGO CREEK PKWY & ST. ANDREWS WAY SILVER SPRING, MARYLAND	
GENERAL INFORMATION SHEET	
SCALE <u>NONE</u>	DATE <u>MARCH 2013</u> CONTRACT NO. <u>XY1515185</u>
DESIGNED BY <u>WFW</u>	COUNTY <u>MONTGOMERY</u>
DRAWN BY <u>WFW</u>	LOGMILE <u>15002901.74</u>
CHECKED BY <u>BJG</u>	TMS NO. <u>L740</u>
FAP NO. <u></u>	TOD NO. <u></u>
TS NO. 40400-G1	DRAWING SP-6 OF 6 SHEET NO. <u>2</u> OF <u>3</u>